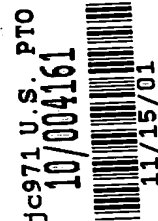


PATENT



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Karl Tryggvason et al.  
Serial No. : Unknown  
Filed : Herewith  
Title : **PERFUSION APPARATUS AND METHODS  
FOR PHARMACEUTICAL DELIVERY**  
Group Art Unit : Unknown  
Examiner : Unknown  
Attorney Docket : TRV 2 0010-1-1-3

#2

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner of Patents  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, 1.98 and MPEP § 609, applicants submit the following Disclosure Statement concerning art of which the applicants are aware. A copy of PTO-1449 is enclosed herewith.

This Information Disclosure Statement is not intended to constitute an admission that any patent, publication or other information referred to herein or submitted herewith is "prior art" for this invention unless specifically designated as such.

In accordance with 37 C.F.R. §1.97(g) and (h), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. §1.56(b) exists.

Under § 1.98(a)(3), no concise explanation of relevance is required for information that is in the English language. Accordingly, the enclosed patents and other cited art require no further explanation.

**U.S. Patents**

5,328,470

5,336,178

5,338,662

5,382,229

5,521,291

**Other Cited Art**

Rosenfeld, M.A. et al. (1991) "Adenovirus-Mediated Transfer of a Recombinant  $\alpha$ 1-Antitrypsin Gene to the Lung Epithelium in Vivo" *Science* 252:431-434.

Tomita, N. et al. (1992) "Direct in vivo Gene Introduction Into Rat Kidney" *Biochemical and Biophysical Research Communications* 186:(1):129-134.

Davidson, B. L. et al. (1993) "A model system for in vivo gene transfer into the central nervous system using an adenoviral vector" *Nature Genetics* 4:27-34.

Englehardt, J.F. et al. (1993) "Direct gene transfer of human (FTR into human bronchial epithelia of xenografts with E1-deleted adenoviruses" *Nature Genetics* 4:27-34.

Isaka, Y. et al. (1993) "Glomerulosclerosis Induced by In Vivo Transfection of Transforming Growth Factor- $\beta$  or Platelet-derived Growth Factor Gene into the Rat Kidney" *Journal of Clinical Investigation* 92:2597-2601.

Moullier et al., (1994) "Adenoviral-mediated gene transfer to renal tubular cells in


vivo" *Kidney International* 45:1220-1225.

Applicants submit that the U.S. patents and other cited art cited above for which no copies are provided were cited in a related application from which this application claims priority. Therefore copies are not required.

It is respectfully requested that the attached document(s) be considered and officially cited in examination of this application.

Respectfully submitted,

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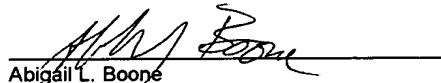
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**CERTIFICATE OF EXPRESS MAILING**

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Date of Deposit 11-15-91

I hereby certify that this **Information Disclosure Statement** in connection with the above identified U.S. Patent Application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

  
Abigail L. Boone

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Subst. Form PTO-1449		Atty. Docket No: TRV 20010-1-1-3		Serial No.: Unknown	
APPLICANT'S INFORMATION DISCLOSURE STATEMENT		Applicant: Karl Tryggvason et al.			
		Filing Date: Herewith		Group: Unknown	

U.S. PATENT DOCUMENTS							
Initial*		Document No.	Date	Name	Class	Subcl	Filing Date
	AA	5,327,470	7/1994				
	AB	5,336,178	8/1994				
	AC	5,338,662	8/1994				
	AD	5,382,229	1/1995				
	AE	5,521,291	5/1996				

OTHER ART		
	AF	Rosenfeld, M.A. et al. (1991) "Adenovirus-Mediated Transfer of a Recombinant $\alpha$ 1-Antitrypsin Gene to the Lung Epithelium in Vivo" <i>Science</i> 252:431-434.
	AG	Tomita, N. et al. (1992) "Direct in vivo Gene Introduction Into Rat Kidney" <i>Biochemical and Biophysical Research Communications</i> 186: (1):129-134.
	AH	Davidson, B. L. et al. (1993) "A model system for in vivo gene transfer into the central nervous system using an adenoviral vector" <i>Nature Genetics</i> 4:27-34.
	AI	Englehardt, J.F. et al. (1993) "Direct gene transfer of human (FTR) into human bronchial epithelia of xenografts with E1-deleted adenoviruses" <i>Nature Genetics</i> 4:27-34.
	AJ	Isaka, Y. et al. (1993) "Glomerulosclerosis Induced by In Vivo Transfection of Transforming Growth Factor- $\beta$ or Platelet-derived Growth Factor Gene into the Rat Kidney" <i>Journal of Clinical Investigation</i> 92:2597-2601.
	AK	Moullier et al., (1994) "Adenoviral-mediated gene transfer to renal tubular cells in vivo" <i>Kidney International</i> 45:1220-1225.

Examiner:	Date Considered:
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if in conformance and not considered. Include copy of this form with next communication to applicant.